

# Optix® Acrylic Sheet Properties



Physical Properties	ASTM Test Method	Units	Values
Specific Gravity	D-792		1.19
Optical Refractive Index	D-542		1.49
Light Transmittance Total Haze	D-1003	% %	92 2
Sound Transmission	E 90 E 413	db	27
Water Absorption	D-570	% By Weight	0.40
Shrinkage	D-702	% Shrinkage	<5%

Mechanical			
Tensile Strength - Max. Tensile Elongation - Max. Tensile Modulus of Elasticity	D-638	psi % psi	11,030 5.8 490,000
Flexural Strength - Max. Flexural Modulus of Elasticity	D-790	psi psi	17,000 490,000
Izod Impact Strength - Molded Notch Izod Impact Strength - Milled Notch	D-256	ft-lb/in Notch ft-lb/in Notch	0.4 0.28
Tensile Impact Strength	D-1822	ft-lb/in <sup>2</sup>	20
Abrasion Resistance Change in Haze 0 cycles 10 cycles 50 cycles 200 cycles	D-1044	Haze, % Haze, % Haze, % Haze, %	0 11.2 24.0 24.9
Rockwell Hardness	D-785		M-95

Thermal	ASTM Test Method	Units	Values
Maximum Recommended Continuous Service Temperature		°F	170-190
Softening Temperature		°F	210-220
Melting Temperature		°F	300-315
Deflection Temperature 264 psi 66 psi	D-648	°F °F	203 207
Coefficient of Thermal Expansion -30 to 30°C	D-696	in/(in-°F) x10 <sup>-5</sup>	3.0
Thermal Conductivity	C-177	BTU-ft/ (hr-ft <sup>2</sup> -°F)	0.075
Flammability (Burning Rate)	D-635	in/minute	1.019
Smoke Density Rating	D-2843	%	3.4
Self-Ignition Temperature	D-1929	°F	833
Flame Spread Index	E-84		115
Smoke Developed Index			550

Chemical			
Resistance to Stress - Critical Craze Stress to: Isopropyl Alcohol Lacquer Thinner Toluene Solvesso 100	ARTC modification of MIL-P-6997	psi psi psi psi	900 500 1,300 1,600

These suggestions and data are based on information we believe to be reliable. They are offered in good faith, but without guarantee, as conditions and methods of use are beyond our control. We recommend that the prospective user determine the suitability of our materials and suggestions before adopting them on a commercial scale.

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